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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,208	02/25/2002	Isao Mochida	080542-0157	4498

22428 7590 10/24/2006

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EXAMINER

HENDRICKSON, STUART L

ART UNIT PAPER NUMBER

1754

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,208

Applicant(s)

MOCHIDA ET AL.

Examiner

Stuart Hendrickson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11,12 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) 11,12,21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seki 3961020 taken with Oikawa et al. 4831011 and in view of Liang et al. 5462908.

Seki teaches in col. 2-3 especially removing NO_x with ammonia over several packed beds of halogen-treated carbon. Seki teaches a variety of arrangements for the introduction of ammonia, and shows numerous valves. Seki does not explicitly teach the oxygen level of the carbon, or the fiber form.

Liang provides evidence that bromine treatment reduces the surface oxygen content- see col. 2. Arriving at the claimed oxygen level, if not inherently possessed, is an obvious expedient to optimize the bed activity. Oikawa teaches in col. 1 active carbon fiber as a sorbent; using this form is an obvious expedient to provide the active carbon desired by Seki.

In so far as Seki does not discuss the valve structure, the claimed arrangement is an obvious expedient to permit servicing one portion without exposing the whole apparatus to air, and also to permit multiple system use wherein the flow is diverted to a second system while the first is regenerated/repaired or depressurized. Essentially, the valve system of claims 25 and 27 is an obvious expedient to permit flexibility in how the system is used. It is noted that for processing ammonia containing gas, one inlet could satisfy both claim 23 elements C and D. It is also noted that placing extra inlets is an obvious expedient to serve multiple systems; duplication of parts is obvious (In re Harza 124 USPQ 378) absent a showing of unexpected results.

Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishino et al. 4256728 taken with Oikawa et al. 4831011 and Liang et al.

Nishino teaches plural beds which can be active carbon. However, Nishino does not teach carbon which has the claimed oxygen level or the fiber form. Liang provides evidence that bromine treatment reduces the surface oxygen content- see col. 2. Arriving at the claimed oxygen level, if not inherently possessed, is an obvious expedient to optimize the bed activity.

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Nishino differs in not having plural beds of the same type, however using more than one bed is an obvious expedient for complete capture of the pollutant of interest- see also In re Harza 124 USPQ 378. Using a 'packed' bed is an obvious expedient to optimize bed capacity and pressure drop; note In re Boesch 205 USPQ 215. Using a 'packed' bed is an obvious expedient to optimize bed capacity and pressure drop; note In re Boesch 205 USPQ 215. Nishino does not discuss the valve structure, however the claimed arrangement is an obvious expedient to permit servicing one portion without exposing the whole apparatus to air, and also to permit multiple system use wherein the flow is diverted to a second system while the first is regenerated/repared or depressurized. Essentially, the valve system of claims 25 and 27 is an obvious expedient to permit flexibility in how the system is used. It is noted that for processing ammonia containing gas, one inlet could satisfy both claim 23 elements C and D. It is also noted that placing extra inlets is an obvious expedient to serve multiple systems; in general, duplication of parts is obvious (Harza above) absent a showing of unexpected results.

Oikawa teaches in col. 1 active carbon fiber; using this form is an obvious expedient to provide the active carbon desired by Nishino.

Applicant's arguments filed 8/24/06 have been fully considered but they are not persuasive. The term 'ammonia supply line' does not actually require ammonia; instead it is a pipe whose intended use has been recited. But the intended use of an apparatus (or portion thereof) does not limit it. It is noted that in claim 27, B and C are duplicate. It appears that this is an error. The 2 'patent abstracts of Japan' on the original IDS have not been provided.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.

A handwritten signature in black ink, appearing to read 'Stu Hend', is positioned above the printed name.

Stuart Hendrickson
examiner Art Unit 1754